AKAI professional

SOFTWARE UPDATE
CD3000 V1.5
and Power up DISK
CD-ROM SAMPLE PLAYER

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

Operator's Manual

TABLE OF CONTENTS

NEW FEATURES..3
- EDIT SAMPLE MODE..3
- EDIT PROGRAM MODE..3
- CD3000i NEW FEATURES..3
- MAKING A BACK-UP OF YOUR NEW OPERATING SYSTEM..4
- SOUND LIBRARY..4

EDIT SAMPLE..5
- CHANGES IN REC1 AND REC2 PAGES..5
- NEW TRIM FUNCTIONS..6
- RE-SAMPLING..8

EDIT PROGRAM..9
- NEW MUTE GROUP FUNCTION..9
- NEW LFO1 FUNCTIONS..12
- NEW LFO2 FUNCTIONS..13
- ENV2 - NEW SCREEN DISPLAY..15

ADDITIONAL FUNCTIONS PROVIDED BY THE POWER UP DISK..16
- MPLY (MIDI File Player)..16
- MPLY functions..16
- MIDI-FILE PLAYER screen..16
- LOAD MIDI-FILE (DOS-FD) screen..17
- Using the MPLY (MIDI File Player)..18
- Bulk Dump..19
- Digital EQ..19
- EQ screen..20

NEW FEATURES ON SOFTWARE VERSION 1.50..22
- NEW PORTAMENTO FEATURE IN EDIT PROGRAM..22
- DEDICATED PIANO MODE..25
- PIANO SAMPLER MODE..26

VERSION 1.50 OPERATING SYSTEM SOFTWARE FOR THE AKAI CD3000 CD-ROM SAMPLE PLAYER

Welcome to Version 1.50 software for the Akai CD3000 CD-ROM sample player. In it, many new features are introduced, such as "PORTAMENTO" and "PIANO BOARD" in EDIT PROG and UTILITY modes, which are explained later in this manual. This addendum to the main operators manual is provided to acquaint you with the new functions. It is assumed that you already have a fairly good working knowledge of the CD3000 but, if you have any doubts, please refer to the operator's manual that was supplied with your sampler for more details. The new features are:

NEW FEATURES

EDIT SAMPLE MODE

- New AUTO FINISH function in RECORD that automatically finishes a recording and pauses the CD for convenient sampling from special sampling CDs.
- New AUTO NAMING function that automatically creates new names for samples allowing you to make several recordings in succession without needing to name new samples.
- New CUT functions in ED.1 TRIM that allow you to automatically trim a sample to loops without having to set start and end times manually.
- Loop points are now shown in the ED.1 TRIM page for added convenience when trimming samples.
- New re-sample functions in ED.2 that include a QUALITY control that analyses the sample being re-sampled in order to achieve higher quality re-sampling at lower bandwidths.

EDIT PROGRAM MODE

- New MUTE GROUP function for drum programs that allow you to emulate various drum sounds. This allows hi-hats and other such drum and percussion samples to reside in one program.
- New LFO 1 RANDOM waveform to emulate the 'sample and hold' effects of analogue synthesisers.
- New LFO 2 RANDOM waveform for emulating 'sample and hold' effects. This may also be set to be re-triggered with note-ons so that each note will generate a different random value.
- New RETRIGGER function in LFO 2 that allows this LFO to be 'free running' in the background thereby emulating LFO effects found on older analogue synthesisers.
- You may now simultaneously view ENV1 whilst setting ENV2.

CD3000I NEW FEATURES

Samplers supplied with the Power up DISK have the following new features:

- MPLY (MIDI File Player), Digital EQ, and MIDI Bulk Dump.
- 8MB internal memory.

MAKING A BACK-UP OF YOUR NEW OPERATING SYSTEM

You may customize certain aspects of the operating system to your own requirements and save these to floppy disk. Functions such as REC1 parameters and SCSI ID's, etc., can be saved as part of the operating system making your life more convenient if you have a particular setup or way of working that you always use. You may also, if you wish, create your own template TEST PROGRAM and save that to floppy as a normal ENTIRE VOLUME save and this will also be booted up on power up. To make a back-up, insert a blank, formatted floppy disk (a 2DD disk will be sufficient), go to the disk page (!! making sure that FLOPPY is selected !!) and press SAVE (F2) and select OPERATING SYSTEM as the type of save and press WIPE or GO. This will save the operating system to floppy. You may make as many copies as you wish and be sure to keep them safe in case of an accident.

We hope you like the new features introduced in this version of software and that you find them useful and convenient. As always, many of them are as a result of feedback from you, our customer, and the development team responsible for the CD3000 CD-ROM sample player very much appreciate your support and suggestions.

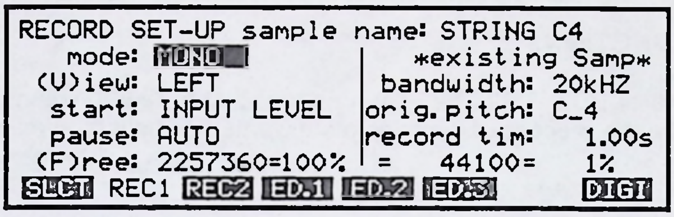
SOUND LIBRARY

Sound library for the S3000 series samplers is always expanding and over 100 new floppy disks have already been created which will be available through your local Akai professional dealer or distributor. Please contact them for details on acquiring these new sounds. You will also be pleased to know that several manufacturers of CD-ROMs are now beginning to release CD-ROMs especially for the CD3000.

EDIT SAMPLE

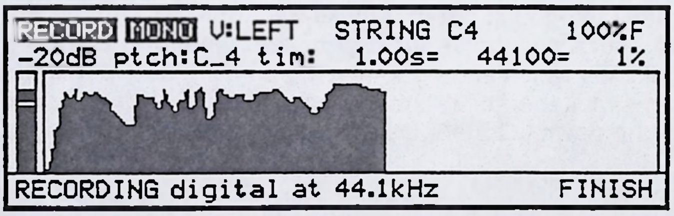
CHANGES IN REC1 AND REC2 PAGES

A new field is added in the REC 1 page that allows you to select how you will finish recording when making a sample from an audio CD.



```
RECORD SET-UP sample name: STRING C4
   mode: MONO              *existing Samp*
 (V)iew: LEFT            bandwidth: 20kHZ
  start: INPUT LEVEL    orig.pitch: C_4
  pause: AUTO           record tim:   1.00s
 (F)ree: 2257360=100%    =    44100=   1%
SLCT REC1 REC2 ED.1 ED.2 ED.3          DIGI
```

The field `pause:` has two options `AUTO` and `MANUAL`. `AUTO` (the default) causes the recording to stop and the CD to pause when the sample has been made. For example, if a recording time of 1.00 second is set (either here in the REC1 page or in the REC2 page), when that second is up, the sampling will automatically stop as before but the audio CD will also be automatically paused. You may then set up for the next recording and carry on. Furthermore, whilst a sample is being made in REC2, F8 shows `FINISH` and if this is pressed this will automatically stop the recording and commit it and it will also pause the audio CD.



```
RECORD MONO V:LEFT   STRING C4       100%F
-20dB ptch:C_4 tim:   1.00s=   44100=   1%
RECORDING digital at 44.1kHz          FINISH
```

To make sampling very straightforward, we recommend that you set the longest available sampling time you can (in REC1 or in REC2) and use the `FINISH` key to finish recording and pause the CD.

When AUTO is used, an 'auto-naming' function is also switched on. With this, as you finish recordings, the name you have created is automatically incremented. For example, if you have just made a recording called SNARE, the name will be incremented to SNARE 1, thus automatically creating a new sample for you to record into. After you have made that sample, the name will increment to SNARE 2, etc.. When making stereo samples, the names will increment but there will be the usual -L and -R appended to the name - i.e. SNARE 3-L.

If the CD3000 'finds' that a name already exists, it will increment the number to the next available one. For example, if SNARE 4 already exists, it will create SNARE 5.

If you wish to re-record over a sample made using the auto-naming function, simply select the appropriate sample in the usual way using the DATA control or the +/< or -/> keys.

In this way, you may conveniently make many recordings one after another without having to keep naming and copying samples. These new functions will be especially useful when sampling from special sampling CDs that often have many samples in quick succession with no indexing

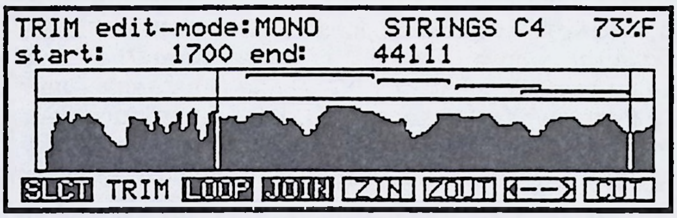
As an example, say you are trying to record several snare drums from a sampling CD. Usually, these are very close together and it can be difficult to sample them. With the `pause:` field set to `AUTO`, set a long record time (maybe several seconds) and line up the first drum you want using the CD transport keys in REC2 as usual. Name your first sample (i.e. SNARE) and make your first recording. As soon as the sample is taken, press F8 - `FINISH` - this will finish the recording AND pause the CD ready for the next drum you wish to sample and will create a new sample SNARE 1 ready for you to record the next sample. Keep doing this until you have taken all the samples you want. You will note that the FINISH also saves a level of editing at a later stage because the action of pressing FINISH also sets the sample's end point.

When the pause: field is set to MANUAL, the audio CD will not auto-pause at the end of a recording and you will receive ABORT as before on F8 when recording which will finish the recording but will not commit it.

NEW TRIM FUNCTIONS

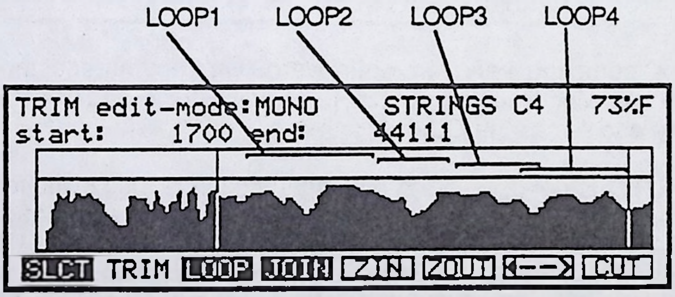
The style of ED.1 TRIM has been changed and new functions have been introduced that make the process of trimming off unwanted sample data much easier.

The new TRIM page looks like this:



TRIM edit-mode:MONO STRINGS C4 73%F
start: 1700 end: 44111

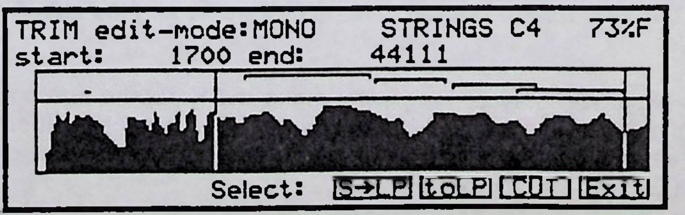
All parameters function in exactly the same way but the vertical height of the waveform display has changed in order to make room for visual indication of loop points you may have set. Running across the top of the waveform display you will see up to four horizontal lines which show you where you have set your loop point(s). Up to four may be shown simultaneously - the top one is LOOP 1, the second one down is LOOP 2, the next one down LOOP 3 and the bottom one is LOOP 4. I.e:



TRIM edit-mode:MONO STRINGS C4 73%F
start: 1700 end: 44111

The loop points cannot be edited in the TRIM page - you must still use the LOOP page - but these will give you a clearer indication of where you are when setting start and end points for trimming.

New functions for trimming are also introduced to make life more convenient for you. When you press F8 - CUT - you will now receive this screen display:



TRIM edit-mode:MONO STRINGS C4 73%F
start: 1700 end: 44111

The four options are:

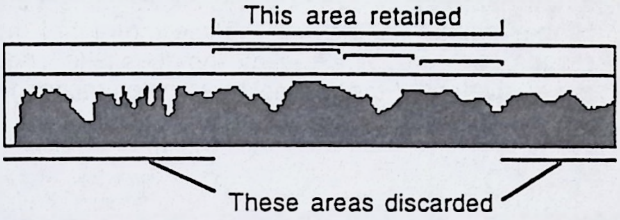
Exit	This will take you out of the CUT screen and return you to the normal TRIM page. Use this if you change your mind when trimming.

CUT

This will perform the normal CUT function and will discard audio before the start point and after the end point you have set manually. As before, if the start or end points are within an active loop zone (and you will see this quite clearly now thanks to the new loop indicators above!), the CUT action will be ignored.

toLP

This will automatically cut audio to a few sample points before the start of the first loop and a few sample points after the end of the last loop irrespective of where you may have manually set the start and end points on the TRIM page. Usually, most people use only one loop and so audio will be discarded just before the start and just after the end of that loop. In the case where more than one loop is used, the CD3000 will automatically work out where the end of the last loop is and where the cut will be made.

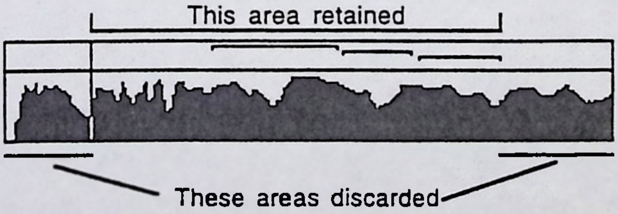


WHEN USING toLP

This may be used when editing sounds that don't have a definite attack. For example, when sampling detuned synth waveforms, you only really need the loop portion in the middle of the sample so audio either side of that can be discarded. Similarly, when sampling single cycle synth waveforms, you can free a lot of space by discarding audio either side of the loop points.

S→LP

This will discard sample data either side of the start point you have set manually and the end of the last active loop.



WHEN USING S→LP

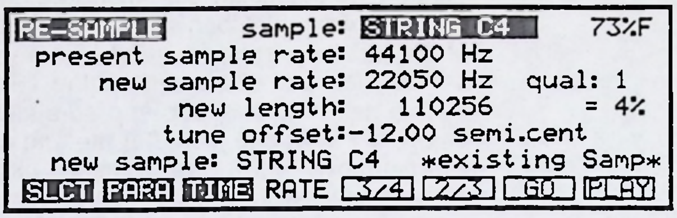
This option should be used when editing sounds that have a pronounced attack which you don't wish to lose but where there is audio data after the loop points which is unnecessary and which can be discarded.

> ***NOTE:*** *You will also find this new loop display in the fade and sectional editing pages of ED.3 where it is useful to view loop points you may have set.*

RE-SAMPLING

The re-sampling page now has a QUALITY control. This is similar to the TIMESTRETCH page in that, during the re-sampling process, the CD3000 analyses the signal and calculates the best interpolation characteristics for the sound being processed.

Pressing RATE in ED.2 now calls up this screen:



```
RE-SAMPLE        sample: STRING C4       73%F
 present sample rate: 44100 Hz
     new sample rate: 22050 Hz  qual: 1
          new length:   110256        = 4%
        tune offset:-12.00 semi.cent
  new sample: STRING C4   *existing Samp*
SLCT PARA TIME RATE  3/4  2/3  GO  PLAY
```

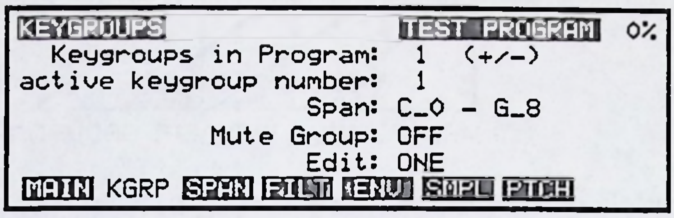
All functions are the same but, alongside the `new sample rate:` field, you will see a new parameter - `qual:` . This allows you set the quality of the re-sample from 1 to 10. Higher quality values will analyse the signal more closely thereby producing better results. Higher quality re-sampling does take longer, however. A quality value of 1 gives the equivalent of the original re-sample function found in Version 1.00.

EDIT PROGRAM

Several new features are introduced in EDIT PROGRAM which are described here.

NEW MUTE GROUP FUNCTION

In the main PROGRAM EDIT screen, pressing KGRP will now display this screen:

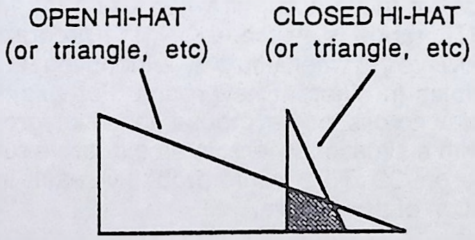


```
KEYGROUPS                        TEST PROGRAM  0%
  Keygroups in Program:  1  (+/-)
active keygroup number:  1
                  Span:  C_0 - G_8
            Mute Group:  OFF
                  Edit:  ONE
MAIN KGRP SPAN FILT ENV SMPL PTCH
```

This gives you access to the keygroup pages. The parameters and operation are as before but a new function, `Mute Group:`, is introduced

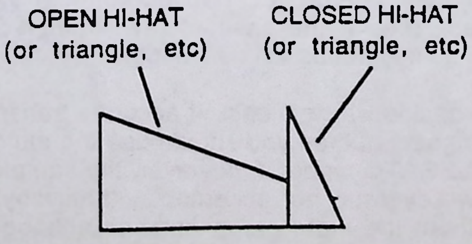
The `Mute Group:` function allows you to group several keygroups together so that they are essentially monophonic. The main reason for this is for drums where sometimes you want a sample to stop playing when another is played. For example, you would want a closed hi-hat to stop an open hi-hat. Similarly, you may want an open triangle to be cut off by a closed triangle. The same may apply to a scraped and hit guira.

To do this, simply assign all the relevant keygroups to the same Mute Group. For example, if all your hi-hats are in keygroups 3-6, assign those keygroups to, say, Mute Group 1. All other keygroups will be unaffected but all those in mute group 1 will be mutually exclusive - that is, if one is sounding when another is played, it will be cut. For example:



OPEN AND CLOSED HI-HAT WITH MUTE GROUP OFF

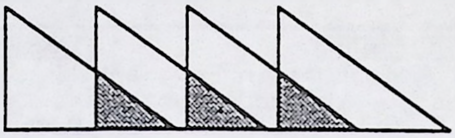
Here, you can see that when the MUTE GROUP is set to OFF, the open hi-hat continues to play even though the closed hi-hat is triggered. The same would be true for open and closed triangle or guira, etc..



OPEN AND CLOSED HI-HAT WITH MUTE GROUP ON

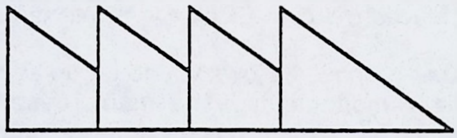
In this example, the open hi-hat is shut off by the closed hi-hat thereby creating a more natural effect. The same would be true for open and closed triangle or guira, etc..

This function may also be used to emulate the characteristics of older drum machines. On these early drum machines, whilst they offered maybe 8 voice polyphony, each individual drum sound was sometimes monophonic. This only became apparent when you tried to perform a snare roll or something similar. Instead of the snare's natural decay being allowed to sound, the next hit would cut the previous one dead resulting in a rather unnatural staccato effect. Of course, at the time, this was undesirable but the dictates of musical fashion now say that this effect is quite popular in some music styles!! By assigning your snare drum into a mute group, you may re-create this effect. For example:



SNARE DRUM ROLL WITH MUTE GROUP OFF

In this example, each snare hit is allowed to decay naturally.



SNARE DRUM ROLL WITH MUTE GROUP ON

In this example, each hit is cut short by the next one.

On the S1000 and S1100 and in previous versions of CD3000 software, you needed to create a separate program, make it 1 voice polyphonic and assign it the same program number as the rest of your drums. Now, you may do all this within one program which you may find more convenient.

Another application for this function is when using the MONO LEGATO mode. When the MONO LEGATO mode is switched ON, the program becomes monophonic. The limitation of this, however, is when you play a mono legato run across a program that has several multi-samples in different keygroups. For example, in a multi-sampled flute program, as you play across the keygroups, those keygroup's samples will not play and you may end up with a situation where, in an extensive run downwards, you are playing a C5 flute sample on C2. This would probably result in an unnatural timbre due to extreme transposition of the sample.

To overcome this, by assigning all the keygroups to the same mute group, although the program is monophonic, as you play across each keygroup, so those keygroup's samples will play in turn and, in the above example, you would be correctly playing the C2 sample on C2. The downside to this, however, is that as you cross into each keygroup, so the samples' attack will be re-triggered. If the attack of the samples is fairly pronounced, you may hear this but, depending on the setting of the envelope generators, this may not be too noticeable. If, however, the samples have no pronounced attack (i.e. in the case of raw, sampled synth waveforms), then the transition across the keygroups will be smooth.

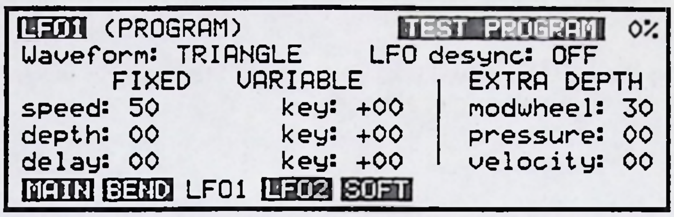
It is up to you to decide which is best. If accurate transposition is more important than the samples re-triggering, then you should use the mute group function in conjunction with the MONO LEGATO mode. If, however, the samples re-triggering every time you cross into a new keygroup not acceptable, then maybe you should use the mono legato mode without the mute group function although you may run into problems associated with extreme transposition of samples. If, as mentioned, the samples do not have a pronounced attack, then a combination of mono legato and the mute group function will give you a smooth transition across the keygroups.

You will also notice another new field - Edit: ALL . This may be switched between ONE and ALL and allows you to edit either the keygroup selected in the active keygroup: field by (ONE) or all keygroups (ALL). This allows you set the keygroups' key span when creating programs with layered keygroups or, more usefully, perhaps, when wishing to assign all keygroups to a particular mute group, selecting ALL here will allow you to do this more easily.

Pressing the MAIN key will take you back to the main PROGRAM EDIT screen and give you access to the other global pages.

NEW LFO1 FUNCTIONS

The LFOs have had many new features introduced which are described here. Pressing LFO1 will give you this screen display:



```
LFO1 (PROGRAM)                      TEST PROGRAM  0%
Waveform: TRIANGLE      LFO desync: OFF
     FIXED    VARIABLE            | EXTRA DEPTH
speed: 50          key: +00       | modwheel: 30
depth: 00          key: +00       | pressure: 00
delay: 00          key: +00       | velocity: 00
MAIN BEND LFO1 LFO2 SOFT
```

This is the page used for setting up LFO1. Again, the program name is shown at the top right of the screen and other programs may be selected for editing if you wish. The parameters for LFO1 remain the same except that a new waveform has been introduced:

Waveform: This allows you to select from four waveforms. They are:

TRIANGLE (∿) - This gives a rising and falling effect. At around a setting of 75, this would normally be used for vibrato but can be assigned anywhere you like and can be used for filter sweeps, panning, amplitude modulation and slow pitch sweeps. This is a 'bi-polar' modulation waveform that 'rotates' around the note you are playing to give a natural vibrato effect.

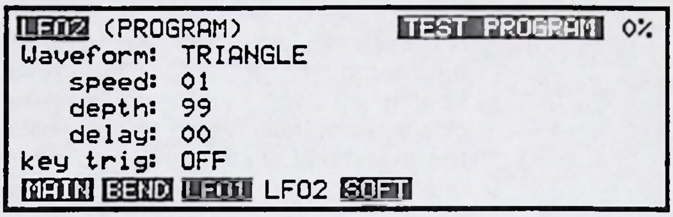
SAWTOOTH (◿) - This waveform is used mostly for special effects. It rises slowly and falls abruptly. This is a 'uni-polar' waveform that jumps between the held note and the modulation level set at the destination.

SQUARE (⊓⊔) - This gives stepped 'up and down' effect. When applied to pitch it can be set to give trills or large octave jumps. This is a 'uni-polar' waveform that jumps between the held note and the modulation level set at the destination.

RANDOM (⊔⊓⊔⊓) - This gives a totally random, stepped waveform and is suitable for special effects. The effect that immediately springs to mind, of course, is the classic 'sample and hold' effect found on analogue synthesisers - by routing this to pitch you can create random pitch effects suitable for, say, creating computer effects, especially when the LFO speed is set quite fast. At a more subtle level, the random wave can be used as an interesting source of vibrato but be careful not to overdo it!. When applied to the filter(s), you can create many interesting random tone change effects. It may also be applied to amplitude, panning, of course. It can even be used to modulate LFO1 SPEED so that, not only are the steps random but the timing between them will also be random - just add TAPE ECHO 1 in the FX page and you have an instant 50's sci-fi film soundtrack!!

NEW LFO2 FUNCTIONS

The RANDOM wave has also been introduced in the second LFO along with other new features. Pressing **LFO2** now displays this screen:



```
LFO2 (PROGRAM)                    TEST PROGRAM  0%
Waveform: TRIANGLE
   speed: 01
   depth: 99
   delay: 00
key trig: OFF
MAIN BEND LFO1 LFO2 SOFT
```

As usual, the program name is displayed in the top right hand corner. The parameters are as follows:

`Waveform:` This selects the modulation waveform. The choices are:

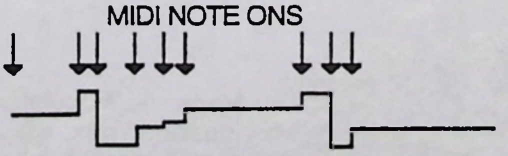
`TRIANGLE` (∿) - This gives a rising and falling effect. At around a setting of 75, this can be used for vibrato but can be assigned anywhere you like and can be used for filter sweeps, panning, amplitude modulation and slow pitch sweeps. This is a 'bi-polar' modulation waveform that 'rotates' around the note you are playing to give a natural vibrato effect.

`SAWTOOTH` (⩘) - This waveform is used mostly for special effects. It rises slowly and falls abruptly. This is a 'uni-polar' waveform that jumps between the held note and the modulation level set at the destination. It can be inverted at the modulation input stages of each destination to give downward sweeps.

`SQUARE` (⊓⊔) - This gives stepped 'up and down' effect. When applied to pitch it can be set to give trills or large octave jumps. This is a 'uni-polar' waveform that jumps between the held note and the modulation level set at the destination. Like the sawtooth wave, it can be inverted at the input stages of each destination.

`RANDOM` (⊓⊔⊓⊔) - This gives a totally random stepped waveform and is suitable for special effects. Like LFO1's RANDOM waveform, it can be used to create the classic 'sample and hold' effect found on analogue synthesisers. However, the random waveform provided by LFO2 has some other possibilities.

When the `speed:` parameter is set to 00, the random steps will only change when a new note-on is received and will sustain at that level until a new note-on is received. I.e:



By applying this LFO in this way to, say, FILTER 1, each note you play may have a different tonal colour and this can be made into quite a dramatic synth effect by setting quite high modulation amounts and high resonance. With percussive sounds, this can be a very interesting rhythmic backing for tightly sequenced arpeggios and riffs and the like. By applying this to panning, each note will be in a different position in the stereo image. On single note, you will get a dramatic panning effect as sound bounce all over the stereo image and in chords, each note will position itself in different positions giving the impression of great depth and spread to the sound.

However, this facility can be also used more subtly! By applying a tiny amount of the RANDOM waveform to pitch (try a depth setting of 01), each note may have a very tiny pitch discrepancy. In a layered string or vocal ensemble, by applying this to just one of the layers, you can create interesting chorus effects as each note has a slightly different detune amount.

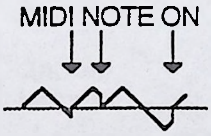
Similarly, when applied in small amounts, this can also be used effectively on 'ethnic' sounds such as pan pipes as the 'real thing' is rarely perfectly in tune from one note to the next. On a rich analogue synth sound, you can also emulate the fact that these old synths' tuning left a lot to be desired!

There are many possibilities which you will no doubt find for yourself.

The other parameters, `speed`, `depth` and `delay` function as before. The other new feature is `retrig:` or RE-TRIGGER.

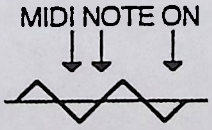
`retrig:`

With `retrig:` set to `ON`, each note you play will reset the cycle of the selected waveform to its leading edge. For example, with the triangle wave selected, you would get this result:



This is useful for certain types of modulation effects where you want the effect to start at the same point in the modulation waveform for every note you play. For example, if you are using the square wave, you may want it to always start on the rising edge with each note you play. The same may apply for the sawtooth and random waveforms.

However, there are occasions when you want the LFO to be free running in the background. For example, on filter or panning sweeps where you want the effect to be gradual as you play, you will want to switch `retrig:` to OFF to get this result:



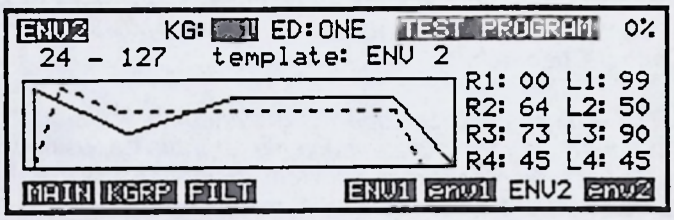
Here, the modulation waveform will ignore incoming note-on messages and will be rising and falling giving you a gradual sweep through whatever it is applied to. This is particularly useful when triangle is selected and applied to the filter(s) as you can re-create the old filter sweep effects of analogue synths.

NOTE: You can only have 16 programs active simultaneously (i.e. sharing the same program number) in which the the retrigger function is set to OFF - in other words, you cannot have more than 16 programs with retrigger switched to OFF layered on top of each other or being sequenced multi-timbrally at any one time. You may, however, have many more programs than this active at one time providing no more than 16 have the reset function switched OFF.

ENV2 - NEW SCREEN DISPLAY

The basic operation of ENV 2 is still the same but the screen display has changed slightly.

Because there are occasions where you need to see both the envelope shapes for ENV1 (amplitude) and ENV2 (usually used for filter shaping) you will now see a screen display something like this where the shape of ENV 1 is superimposed on ENV2:



```
ENV2        KG: 01 ED:ONE     TEST PROGRAM   0%
 24 - 127   template: ENV 2
                                R1: 00 L1: 99
                                R2: 64 L2: 50
                                R3: 73 L3: 90
                                R4: 45 L4: 45
MAIN KGRP FILT         ENV1 env1 ENV2 env2
```

The second page of envelope parameters can be accessed as usual by pressing env2.

You will note that when you are programming ENV1, you do not see the shape of ENV2. This is because it is not defined what ENV2 may be doing - it could be that ENV2 is being used as a pitch envelope or to shape the output of LFO1 in which case, this has no relevance to ENV1 and so cannot be displayed.

ADDITIONAL FUNCTIONS PROVIDED BY THE POWER UP DISK

MPLY (MIDI File Player)

When a Akai CD3000i is booted from the Power up DISK in Disk mode, Standard MIDI Files (SMF) can be loaded from MS-DOS format floppy disks. Since a CD3000i is not General MIDI compatible, you have to program and assign sounds on the sampler in order to play SMF sequence data. The sequence data is output from MIDI OUT.

MPLY functions:

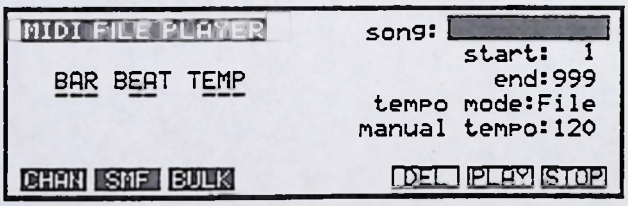
- Up to 50 MIDI files, a total of 250KB can be loaded simultaneously
- Support for SMF files of up to 999 bars per song, a total of 250KB
- Compatible with SMF formats 0 and 1

Note 1: *Refer to the sampler's MIDI Implementation Chart to see what functions are available when working with Standard MIDI Files on MS-DOS format floppy disks (Note-on/off, Control Change, etc).*

Note 2: *The Power up DISK operating system is Version 1.30. If your sampler's system has been upgraded to a version higher than 1.3, using the Power up DISK with your sampler will set its operating system to version 1.30.* ***Make sure that you load the data from the Power up DISK in Disk mode. Use the cursor to select "OPERATING SYSTEM".***

MIDI-FILE PLAYER screen

In MIDI mode, pressing the new F8 MPLY soft key displays the following parameters and soft keys.



```
MIDI FILE PLAYER              song:
                                start:   1
   BAR BEAT TEMP                  end:999
   --- ---  ---            tempo mode:File
                          manual tempo:120

CHAN  SMF  BULK                DEL PLAY STOP
```

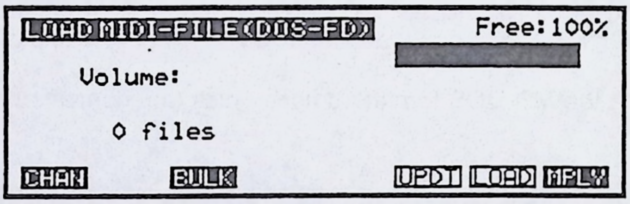
song:	Shows the name of the song selected for playback. With some songs loaded in the sampler, use the data knob to select a song.
start:	Shows the bar from which playback will start. Use the data knob to set the starting bar within the range 1–999.
end:	Shows the bar at which playback will end. Use the data knob to set the end bar within the range 999–1. The end bar cannot be set to a bar that comes before the start bar.
tempo mode:	Indicates whether tempo is set to MIDI file tempo (as specified in the song data) or manual tempo (can be set on the playback device). If you wish to change the tempo, use the data knob to set this field to manual.
manual tempo:	Use the data knob to set the playback tempo from 10 to 255. You can also change the tempo during playback.
BAR BEAT TEMP	When the PLAY key is pressed, BAR and BEAT start counting up, and TEMP indicates the tempo based on the tempo mode setting.

DEL	Deletes the selected song. Make sure that you really want to delete a song before pressing the DEL key.
PLAY	Plays the selected song from the specified start bar. Pressing the PLAY key during playback will restart playback from the start bar.
STOP	Stops playback.
SMF	Goes to the LOAD MIDI-FILE screen.
BULK	The BULK DUMP screen appears.
CHAN	Takes you back to the BASIC MIDI CHANNEL CONTROL screen.

LOAD MIDI-FILE (DOS-FD) screen

When this screen appears, a CD3000i reads the floppy disk and lists the MIDI files that it contains.

Parameters and soft keys available with this screen are shown below.



LOAD MIDI-FILE(DOS-FD) Free:100%

Volume:

0 files

Free:	Indicates free memory in percent. A value of 100% means that approximately 250KB is free.
File list	Lists all the MIDI files on the floppy disk on the bottom line of the Free field. Use the up/down cursors to select them. If there are many files, you can scroll through them.
Volume:	Shows the floppy disk label name.
files:	Indicates the number of files on the floppy disk.
UPDT	Updates the file list. Press this key when you change floppy disks while this screen is displayed.
LOAD	Loads the selected MIDI file into memory. If you try to load a file that is not a Standard MIDI file, or one that is too large, an error message will appear and the loading operation will be stopped. If you load a MIDI file that has the same name as a file already in memory, the existing file will be deleted and the new file will be loaded into the same position. If there is no file in memory with the same name, the new file will be loaded next to the current file.
MPLY	Goes back to the MIDI FILE PLAYER screen.
BULK	Goes to the BULK DUMP screen.
CHAN	Takes you back to the BASIC MIDI CHANNEL CONTROL screen.

Using the MPLY (MIDI File Player)

To use SMF data on a CD3000i, follow the procedure below. The Power up DISK contains a demo song, so please use it to try out the MPLY functions and enjoy!

<Preparation>

1. Note the voices (piano, bass, etc.) required for the MIDI file.
2. Note the MIDI channel of each voice.

<Procedure>

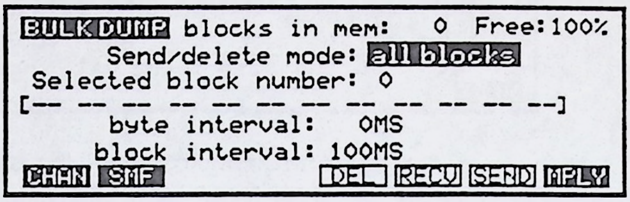
1. Insert the Power up DISK, and load the Power up DISK operating system in Disk mode.
2. Go to the DISK mode page, and load the required voices from your sound library floppy disks, hard disk, CD-ROM, etc.
3. In SELECT PROG mode, use the Program renumbering function RNUM to renumber all loaded programs to 1.
4. In Edit Program mode, use the MIDI screen to assign MIDI Channels to programs so that they match the MIDI Channels used in the MIDI file.
5. Using the MIDI mode Basic MIDI Channel Control screen, make sure that the `program select:` and `global OMNI:` parameters are both set to OFF.
6. Insert the MS-DOS formatted floppy disk that contains the SMF data into the disk drive.
7. In MIDI mode F8 MPLY, press the SMF key to select the LOAD MIDI FILE screen. Select and load a MIDI file from the file list. You can load as many MIDI files as you want as long as there is enough memory space.
8. Press MPLY, then press PLAY in the MIDI FILE PLAYER screen to start playback.

Note:

- *SMF song playback is performed on the MIDI FILE PLAYER screen.*
- *Program change messages sent in-between songs are ignored.*
- *Be careful not to exceed the memory space of the sampler. This may occur when using a MIDI file that contains multiple programs that require a lot of memory, such as piano.*

Bulk Dump

Pressing soft key F3 BULK on the MIDI File Player screen takes you to the MIDI Bulk Dump screen. Here you can receive MIDI Exclusive data from other MIDI devices, save it to floppy disk, and transmit it back, as required.
This screen has the following parameters and soft keys.



```
BULK DUMP blocks in mem:   0  Free:100%
      Send/delete mode: all blocks
 Selected block number: 0
[-- -- -- -- -- -- -- -- -- -- -- --]
       byte interval:   0MS
      block interval: 100MS
CHAN SMF              DEL RECV SEND MPLY
```

`blocks in menu:`	Shows the number of blocks in memory.
`Free:`	Shows the amount of free memory. 100% means 64KB.
`Send/delete mode:`	Use the data knob to select "all blocks" mode or "selected block" mode for transmitting (or deleting) Exclusive data.
`selected block number:`	Use the data knob to select a block number. The first 12 bytes of Exclusive data are displayed on the bottom line of this field.
`byte interval:`	Can be set from 0 to 999 ms. Default is 0 ms.
`block interval:`	Can be set from 999 to 0 ms. Default is 100 ms.
	Byte/block interval settings are used when you change the data transmission speed according to the receiving device.
DEL	Delete unnecessary blocks from memory.
RECV	Start Exclusive data receive.
SEND	Start Exclusive data transmit.
MPLY	Goes to the MIDI File Player screen.
CHAN	Goes back to the BASIC MIDI CHANNEL CONTROL screen.
SMF	Goes to the LOAD MIDI-FILE screen.

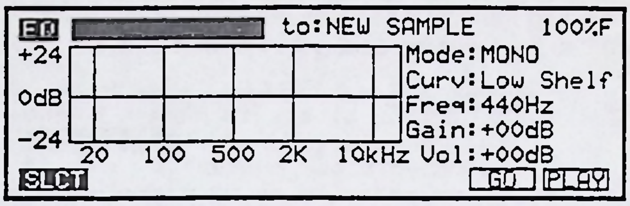
See Disk mode for details about loading and saving data to floppy disk.

Digital EQ

The Power up DISK also includes a digital equalizer function. EDIT SAMPLE mode has a new EQ.4 page, on which you can create a new post-EQ sample.

EQ screen

On the main sample select screen, pressing the new ED.4 soft key will display the following parameters and soft keys.



```
EQ ▬▬▬▬▬▬▬▬▬▬  to:NEW SAMPLE     100%F
+24                  Mode:MONO
                     Curv:Low Shelf
0dB                  Freq:440Hz
                     Gain:+00dB
-24
  20  100  500  2K  10kHz Vol:+00dB
SLCT                      GO  PLAY
```

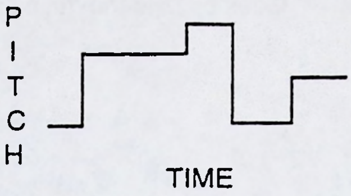
EQ	Use the data knob to select the sample that you want to equalize. When you select a sample, its name also appears in the to: field.
to:	This is used to name the new equalized sample. Use the NAME key to enter a name up to 12 characters long. If you press GO without naming the sample, you will receive the message "Can't replace same sample!", and the existing sample will not be overwritten. However, if you have changed some parameter of the post-EQ sample and pressed the GO key, the message "Overwrite existing sample!?" appears.
Mode:	Selects stereo or mono for an EQ sample.
Curv:	Selects the EQ range/curve. ***Low Shelf** EQ is applied to frequencies below the frequency specified in the Freq: field. ***Band Wide** EQ is applied to a 2-octave frequency band. The Freq: field sets the center frequency. ***Band Thin** EQ is applied to a half-octave frequency band. The Freq: field sets the center frequency. ***Hi Shelf** EQ is applied to frequencies above the frequency specified in the Freq: field.
Freq:	Specifies the EQ frequency from 20 to 22,050 Hz. You cannot select an EQ frequency higher than half the sample rate.
Gain:	Sets the EQ gain up to +/–24dB. For the Low Shelf EQ, maximum change occurs at 0 Hz. For the Hi Shelf it occurs at the frequency that is half the sample rate. And for the Band Wide and Band Thin EQs, at the specified center frequency.
Vol:	Sets the post-EQ volume level up to +/–50dB. When Vol is set to a negative value, volume calculation is done pre EQ, which can be used to prevent clipping when a positive Gain level is set. When Vol is set to a positive value, volume calculation is done post EQ, which is useful for volume level correction when a negative Gain level is set.
GO	Executes EQ processing and volume level calculation based on the mode:, Curv:, Freq:, and Vol: parameters. If you

have named a sample and pressed GO, pressing the PLAY key will play back the post-EQ sample, and pressing the ENT/PLAY key will play back the pre-EQ sample.

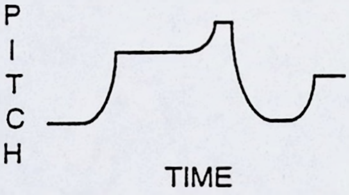
PLAY	Plays back the post-EQ sample.
SLCT	Goes back to the main sample select page.

NEW PORTAMENTO FEATURE IN EDIT PROGRAM

Software version 1.50 introduces the new PORTAMENTO feature in EDIT PROG. Portamento is a function that allows you to 'glide' from one note to another instead of moving in steps as is normally the case.



NORMAL PLAYBACK (NO PORTAMENTO)

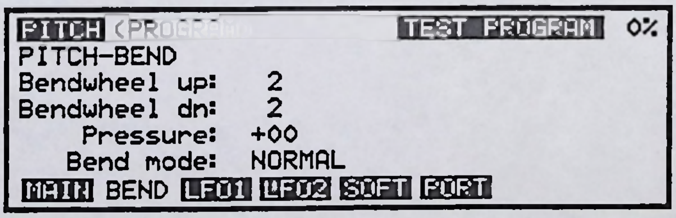


WITH PORTAMENTO SWITCHED ON

As you can see, when portamento is on, each note 'slides' to the next and the speed with which it slides is set by the portamento's RATE parameter.

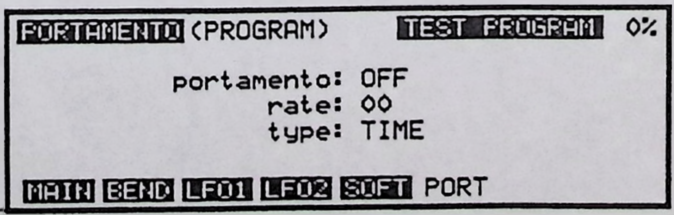
The portamento effect is useful when playing acoustic sounds such as stringed instruments that have no frets (violins, violas, etc., fretless bass) and instruments such as trombone, penny whistle, etc.. It is also effective on vocal sounds as few, if any, singers hit the note dead on - most slide into it. Of course, portamento was also a standard feature on older analogue synths, particularly monophonic ones (where it was often called GLIDE) and was responsible for the creation of some highly distinctive (although often over-used!) synth effects.

The PORTAMENTO page is to be found as part of the MOD pages in EDIT PROG. Assuming you are in EDIT PROG, press **MOD** (F3) and you will receive this screen:



```
PITCH (PROGRAM)                TEST PROGRAM   0%
PITCH-BEND
Bendwheel up:    2
Bendwheel dn:    2
     Pressure:  +00
   Bend mode:   NORMAL
MAIN BEND LFO1 LFO2 SOFT PORT
```

A new soft key is introduced on F6 - **PORT** - and this will take you to the PORTAMENTO page:



```
PORTAMENTO (PROGRAM)           TEST PROGRAM   0%

          portamento: OFF
                rate: 00
                type: TIME

MAIN BEND LFO1 LFO2 SOFT PORT
```

The parameters are:

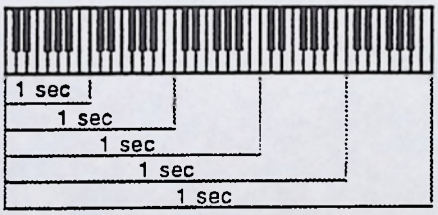
portamento:	This can be switched ON or OFF. When it is switched ON you will hear the portamento effect as you play.

You will note that this parameter responds to the MIDI PORTAMENTO pedal (controller #65). This pedal is like the sustain pedal - when depressed, portamento will be switched on; when released, the effect will be switched off. When the portamento: parameter is ON, pressing the portamento pedal will have no effect - portamento will be on permanently. When this parameter is set to OFF, the portamento pedal will allow you to switch it on or off as you please. This may be useful when you wish to play a sound normally but only apply portamento to a few notes. For example, when playing a trombone sample, you may play normally and then switch portamento on to create the slide effect. Similarly, with fretless bass, the portamento pedal may be used to slide notes whenever you please.

rate: This sets the speed of the portamento. It is difficult to specify its range as this depends on the setting of the type: parameter described below but the longest portamento effect you can have is over 30 seconds. You will note that if this parameter is set high but you play notes quickly, the portamento effect may be so slow that your notes never hit the right pitches! If you anticipate playing a particular sound quickly, set lower portamento rates.

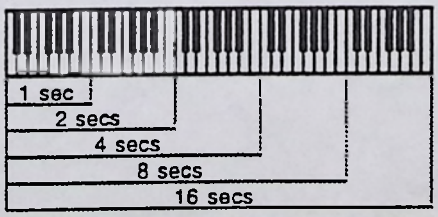
type: Here you may select two different portamento types, TIME and RATE.

TIME sets the portamento effect so that the speed of the effect is constant regardless of the interval played. For example, if the rate is set to give a glide of 1 second, it will take one second to glide up a semi-tone or seven octaves. For example:



When TIME is selected

When set to RATE, the speed the effect takes depends on the interval. For example, if it takes one second to cover an octave, it will take two seconds to cover two octaves, four seconds to cover three octaves, eight seconds to cover four octaves, etc.. For example:



When RATE is selected

You may use these two portamento modes to create a range of different musical effects.

NOTES ON USING PORTAMENTO

The portamento effect can be used when playing polyphonically or monophonically.

When playing polyphonically, notes in a chord will slide up or down to the next chord accordingly at a speed set by the RATE and TYPE parameter. If one note in a chord is held when a new chord is played, it will not be affected.

When playing monophonically (i.e. with MONO LEGATO switched ON), the effect is just like that found on an old analogue monosynth and many exciting synth sounds can be created using the portamento function that fit in perfectly with the current fashion for using analogue synths. Before this update, whilst you could sample your favourite synth sounds and process them using the CD3000 analogue style synth functions to create endless variations, you could not give them that classic glide effect. Well, now you can!!

Of course, when playing monophonically, the effect can be applied equally as effectively to samples of acoustic instruments and the effect can be switched in and out using the MIDI PORTAMENTO pedal for expressive phrasing.

The portamento effect is a PROGRAM parameter - that is, it will affect all keygroups equally. When layering sounds, to apply portamento to some sounds and not to others, create a program with one set of sounds and another program with the other sounds and renumber them so that they have the same program number. Now set portamento on one of the programs but not on the other. When you play, one program will hit new notes immediately whilst the other lags behind. Of course, you may stack more than two programs on top of each other.

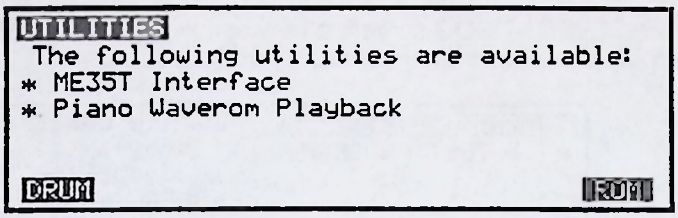
Alternatively, you may layer programs in this way and set different portamento rates for each one so that they all slide around at different speeds!

DEDICATED PIANO MODE

PLAYING THE PIANO BOARD (WAVEROM) SOUNDS

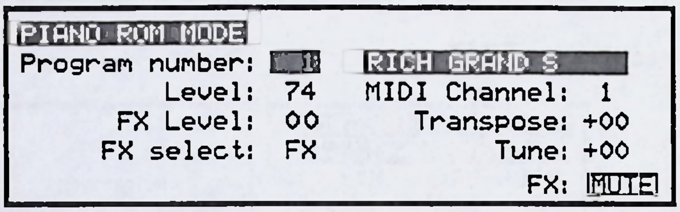
Press UTILITY

You will receive this display:



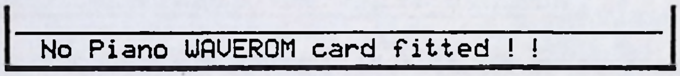
```
UTILITIES
 The following utilities are available:
* ME35T Interface
* Piano Waverom Playback

DRUM                                 ROM
```

Press ROM - F8:



```
PIANO ROM MODE
Program number:   1    RICH GRAND S
         Level:  74    MIDI Channel:  1
      FX Level:  00       Transpose: +00
     FX select:  FX            Tune: +00
                                 FX: MUTE
```

If the Piano board is not installed in the sampler, you will receive this message:



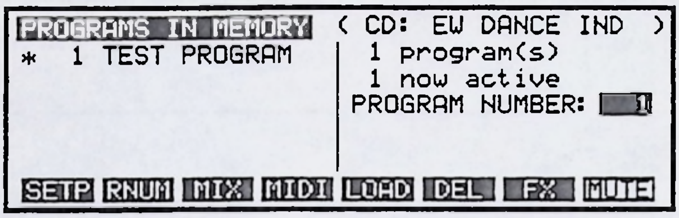
```
No Piano WAVEROM card fitted ! !
```

PIANO SAMPLER MODE

LOADING PIANO BOARD (WAVEROM) SOUNDS INTO THE SAMPLER

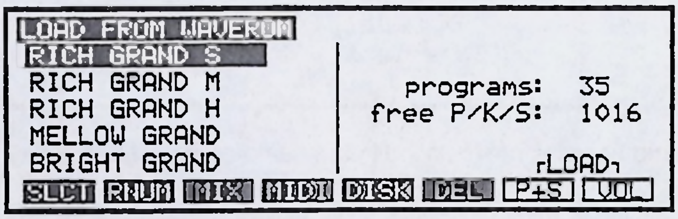
It is also possible to load sounds from the WAVEROM sounds into the sampler so that they may be used as normal sampler programs. This allows you to use the sounds alongside your own samples and programs.

In the main SELECT PROG screen, a new soft key is shown - LOAD (F5) which allows you to display programs from the Piano board.



```
PROGRAMS IN MEMORY  ( CD: EW DANCE IND  )
*  1 TEST PROGRAM   |  1 program(s)
                    |  1 now active
                    PROGRAM NUMBER:    1
                    |
SETP RNUM MIX MIDI LOAD DEL  FX  MUTE
```

Pressing softkey F5 LOAD will give you this screen.



```
LOAD FROM WAVEROM
 RICH GRAND S      |
 RICH GRAND M      |     programs:   35
 RICH GRAND H      |  free P/K/S:   1016
 MELLOW GRAND      |
 BRIGHT GRAND      |             ┌LOAD┐
SLCT RNUM MIX MIDI DISK DEL P+S VOL
```

In this page, softkey F5 LOAD has become DISK. All program names of the Piano board are shown on the left side of the screen. Follow the procedure used to load data from a normal disk.